Chapter 7

Synchronized Libraries

The synchronized library feature in Sente lets you:

- Install synchronized copies of any library on any number of computers and iPads, regardless of where they are located (that is, a local network connection is not required);
- Add and edit references in any copy of the library, with the changes quickly flowing to all other copies;
- Read PDFs, take notes and highlight text in any copy at any time, with all changes appearing in all copies almost immediately;
- Provide copies with restricted editing permissions to other users when appropriate;
- Create copies without PDFs to comply with copyright restrictions;
- Create lightweight copies that only download PDFs (or other attachments) when you actually need them, thus conserving disk space when needed.

This chapter will provide you with an overview of synchronized libraries in Sente and it will describe the steps required to create and install synchronized copies on any Mac or iPad.

Uses for Synchronized Libraries

Sente's synchronized library feature is more flexible than one might expect and it can be used in ways that might not be immediately obvious to new users. This section will describe some common ways to use synchronized libraries.

Keeping Your Library Current on Multiple Devices

The most common use for synchronized libraries is to keep one or more libraries up-to-date on several computers used by one person. For example, you might have a desktop computer at home and at your office, plus a laptop or iPad that you use while on the road. If you place a synchronized copy of your library on each computer, you will always have access to the most recent updates to your library.

This means that changes you make on your computer at the office are available on your computer at home that evening. And on your laptop when you travel. And on the iPad that you now carry instead of file folders stuffed with PDFs. When your standing searches in the copy of your library at work find new references on your research topic, those references appear in all copies almost immediately. As you read a PDF on your iPad on the bus ride home, highlighting passages and taking notes, the highlighting and notes appear in all copies by the time you arrive home. Changes made in any copy show up in all other copies almost immediately, no matter where they are located.

Sharing a Library with Collaborators

Another use for synchronized libraries is to share them with collaborators. You and your peers may be working on a research paper or a research project, for example. You can create a synchronized library filled with all of the resources needed for your research and share copies of the library with your collaborators. Not only will everyone be able to have access to that research library, they will be able to access it from any of their devices, including their iPads. The synchronized library copies will always stay up-to-date and identical on all of the computers.

Because Sente lets you set different permission levels on each copy of a synchronized library, you can, for example, provide copies of a library that allow new references to be added and edited, but which prevent changes to the QuickTag palette used to keep the library organized.

Distributing Read-Only Copies of a Library

Another common use for synchronized libraries is as a mechanism for distributing references and PDFs to students or colleagues. In this case, you would create restricted copies of your library that let users view, but not edit, the contents of the library. You would then distribute these read-only libraries through email or a website to the appropriate people. Then, not only would the recipients have access to the contents of the library on the day they first receive the library, but whenever you add new references in your copy, the data will quickly appear in all copies.

Because Sente Viewer for iPad is a free application, anyone with an iPad can view your library on their iPad at no cost.

If the people using a read-only copy of your library maintain their own research libraries in Sente, they can easily copy references and attachments from their copy of your library to their own library.

Using Synchronized Libraries as a Backup

Although this is something you normally might not think of, a synchronized library can also serve as an effective backup mechanism. If you only have one computer, you might not think you have a need for the synchronized library feature in Sente. But if you turn synchronization on for your library, make a synchronized copy of that library and store it somewhere other than on your computer (e.g., on a CD-ROM, USB drive, or in your email account stored on a server), you can still recover your Sente library should you ever lose your computer - and still have the very last changes you made before the computer was lost. All you need to do is to install Sente on your replacement computer, restore the backup copy you made months ago, open it in Sente and wait while it catches up with all the changes you made since creating the backup copy.

How Synchronized Libraries Work

The Basics

Setting up a synchronized library in Sente is straightforward, but it is still useful to understand a bit about how synchronized libraries work.

With synchronized libraries in Sente there is no master copy that has to be online, and computers (including iPads) do not have to be in close proximity or connected to each other on the same network in order to synchronize. Instead, a history of all

changes to a synchronized library is stored on our synchronization servers and each copy of the library will synchronize with those servers whenever it is online, downloading any changes made on other computers or by other users and uploading any edits you made while offline.

In brief, here is how you set-up and use synchronized libraries:

8. *The first step is to turn Synchronization on, which will transmit information about the current state of your library to our servers.*
9. *Next, you create a synchronized copy of the library with the desired permissions and content.*
10. *Then you transfer the new, synchronized copy to a different device (desktop, laptop, or iPad).*
11. *After that, you can open the library copy on the other device and it will automatically start synchronizing.*
12. *You can make edits on any copy of the library (subject to permission settings) and all versions of the library will be synchronized.*

These steps will be described in more detail below.

What Information Is Synchronized

Most of the information in a synchronized library is automatically copied to all other copies of the library, but not everything. Here is a description of what is, and what is not, synchronized.

The following information is automatically synchronized between all copies of a synchronized library:

- All references in the LIBRARY category in the source list (this includes all references that you see when you select the References item in the source list just below LIBRARY)
- All notes on all of the above references
- All PDFs and other files attached to the above references (assuming the copy was created with the necessary permission settings, and assuming that the library is configured so that Sente is managing the attachments)
- All PDF annotations (again subject to permissions)
- All Shared Collections
- The QuickTag hierarchy

- The status dictionary

The following items are not synchronized between multiple copies of a synchronized library. If you want these items to be the same in all copies of a library, they will have to be edited manually in each copy.

- Everything in the COLLECTIONS category in the source list, including static collections and search collections
- Bibliography formats
- Hotwords
- Everything in the SEARCHES category
- References in the Trash collection
- Attachments that are not being managed by Sente

What Happens When You Turn Sync On

When you first turn synchronization on for a library, Sente contacts our sync servers, creates an account for the library, and encrypts the credentials required to access this account and stores them inside the library bundle.

Each synchronized library is assigned a six-character alphanumeric ID. All copies of a synchronized library will display the same value for this identifier. This can help you diagnose any problems with the initial set-up of a synchronized library.

All communication between Sente and our sync server is done using port 993. This is the port normally used for the secure IMAP protocol (which is, in fact, what Sente uses for sync communications). Some institutions have firewalls that block this port, but Sente must be able to communicate over this port for sync to work. You cannot maintain a synchronized copy of a library behind a firewall that blocks traffic on port 993.

After the account is created and the credentials are assigned, information about the current state of the library is uploaded to the account on the sync server. All data sent back and forth over the Internet is always encrypted and occurs in the background.

The initial synchronization with the sync server may take a while. You can continue to work on the library during this process, but you will not be able to create a synchronized copy of the library until this initial synchronization process with the server has finished. If you close Sente during the process, it will pick up where it left off the next time you open the application.

Once the initial upload of information is completed, you can create a synchronized library.

What Happens When You Create a Synchronized Copy

When you create a synchronized copy, you are presented with a number of options that control, for example, what operations will be permitted in the new copy, and how much data should be pre-populated in the copy. These options are explained in detail later in this chapter.

Once all of these options are selected, Sente will create the encrypted copy with the same credentials needed to synchronize with the server. If any attachments are included with the library copy, they will be filed inside of the copy but can be moved later, if desired. Finally, the copy is moved to another computer or iPad and then opened in Sente on that device, at which time the library will immediately contact the Sente sync servers and catch up with any changes made since the copy was created. If the copy was not pre-populated, this first synchronization may take some time given how much data must be downloaded.

What Happens When You Edit a Synchronized Library

Your Sente library knows how to communicate with the Sente sync servers, so synchronization can and will occur in the background as long as there is an open Internet connection. You can work offline with the library, but it is important to let the library synchronize with the servers as often as possible.

If you are online while you are making changes, each edit is committed locally and then transmitted to the sync servers. The sync servers check to make sure that your changes were made to the most current version of the reference. If they were, your new version is made the new official version and the other synchronized library copies are updated with the new information. If you were not working on the most current version of the reference, your edit is marked as a Sync Conflict, which you must resolve manually. For more information about sync conflicts, see the “Sync Conflicts” section below.

What Happens While Your Library is Offline

When your library is offline, you can still make changes. Each edit is committed locally and the changes are queued up for synchronization. The next time the computer is online, the synchronized process described above is carried out.

The major difference between editing on-line and off-line is that working off-line increases the likelihood of synchronization conflicts. If you edit a reference while off-line, the changes will be committed the next time the library is on-line, unless the reference is edited in another copy of the library before then. When Sente tries to commit the changes you made while off-line, if it detects that the same reference was edited in another copy of the library while you were off-line, your changes will be rejected by the server and marked as a sync conflict in your local library.

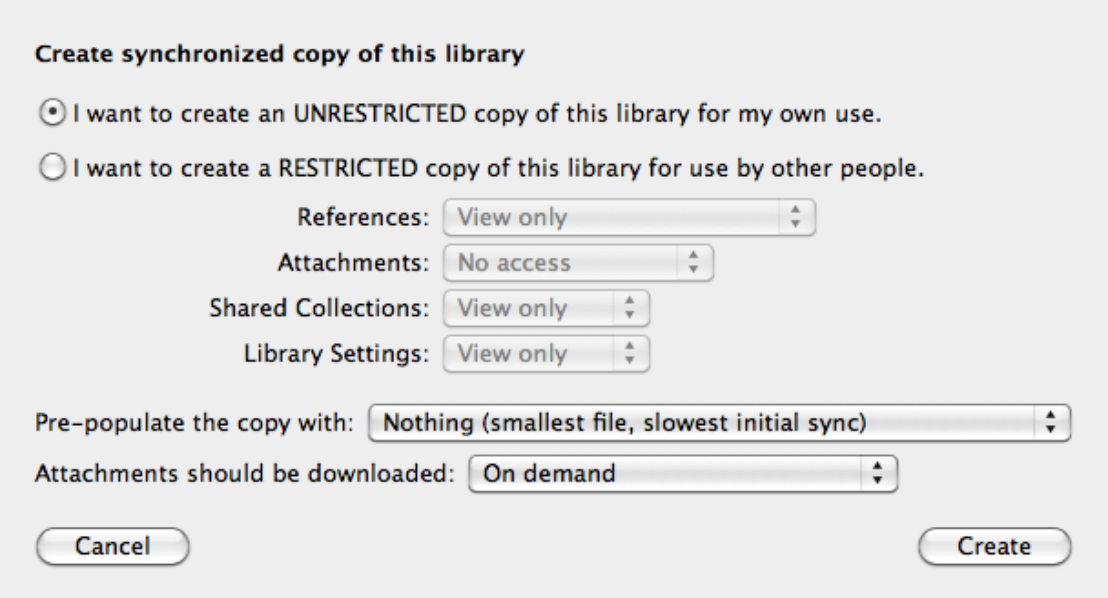
If you are the only user of a synchronized library (but you use it on multiple computers), you can work in such a way as to prevent sync conflicts. All you need to do is make sure that all of your changes in any copy are synchronized before working on a different copy. For example, if you were to work on a library on your laptop or iPad during a long flight without an Internet connection, be sure to get that device on-line shortly after the flight and let Sente sync all the changes you made in transit.

On the other hand, when several different people have permission to edit a library, if you were to work off-line for an extended period, there is a chance that you will have made a change to one or more references that someone else edited while you were off-line. In this case, when you let your copy synchronize, the changes you made to these references will be marked as sync conflicts and will require manual intervention on your part. For this reason, it is best to avoid changing many references while off-line if others might be editing the same references.

There is more information about handling sync conflicts later in this chapter.

Configuring Synchronized Copies

Each copy of a synchronized library can be configured to support different levels of user permissions. These configuration options are presented in the sheet that appears when you select the File > Synchronization > Create Synchronized Copy command.



The options available when creating a new synchronized copy of a library.

Unrestricted vs. Restricted Libraries

One of the most basic questions to answer when creating a synchronized copy of a library is whether the copy is for your own use (in which case you will want to be able to do anything in any copy of the library without restriction) or for someone else's use (in which case you will probably want to limit what they can do).

- **An Unrestricted copy** of a library allows the user to view, add, modify, and delete references and attachments, as well as change Sente library settings. This is the most common option to use if you are setting up synchronized libraries on multiple computers for your own use.
- **A Restricted copy** of a library allows you to control how other users (and yourself on other computers) can use the copies of the synchronized library. For example, you can set restrictions to allow other users to only be able to view the references and attachments; to be able to view them and make changes; or to have full access (including permission to delete references and/or attachments). These options are explained below.

Options for Restricted Copies of a Library

When you create a restricted copy of a library, you can specify just which operations can be done on that copy.

Reference Permissions

Do you want people to be able to add and delete references? To change (modify) references? Or to only view the references and not be able to add, modify or delete them? Select one of these options in the References drop-down list:

- **View only** - can only view the references and cannot add, change, or delete them
- **Add and modify** - can add, view and change references, but cannot delete them
- **Add, modify, and delete** - can add, view, change, and delete references (full control)

Attachment Permissions

This option controls how people can access library attachments, like PDFs. Select one of the following:

- **No access** - cannot view, add or delete attachments
- **View only** - can view attachments, but cannot add or delete them
- **Add** - can add and view attachments, but cannot delete them
- **Add and delete** - can add, view, and delete attachments (full control)

Shared Collections Permissions

Control whether the definitions of shared smart collections can be modified in this copy of the library by selecting one of the following:

- **View only** - can only view the shared collections; cannot modify them.
- **Modify** - can view and modify shared collections (full control)

Library Settings Permissions

Select one of these options to determine whether or not other people can change the library settings, such as the QuickTag palette and the status dictionary:

- **View only** - cannot change library settings
- **Modify** - can change library settings (full control)

Pre-population Options

You can control how much data is placed in the synchronized library copy when it is first created. Do you want the copy to be fully pre-populated so that little time is

needed to initially synchronize the library? Do you need a very small file size that you can email instead?

Select one of the following pre-population options:

- **Nothing (smallest file, slowest initial sync)** - This option will result in the smallest file possible, with no detailed information about the references or attachments. Once the file is opened in Sente, it will begin synchronizing and the reference information and attachments (if any) will begin to download. This process may take a long time, depending on the size of the library and whether attachments are set to be downloaded on demand or as soon as they are available (see below). This option may be the best option for sending libraries via email, but if you will be transferring the library in another way, you might want to select one of the other options to speed up the initial sync.
- **All current references** - Only information about the references will be included in the file (no attachments). This will normally produce a smaller file and allow for a faster synchronization time on the new computer or iPad.
- **All references and attachments (quickest initial sync)** - This option creates the largest file in size, but allows for a faster initial synchronization on the new computer or iPad. All of the references and attachments are included in the file that is transferred, so initial synchronization will be very quick when the library is opened for the first time.

Attachment Handling Options

You also need to specify when Sente should download attachments in this copy of the library. Assuming you having configured the library to include attachments at all, your choices are to have Sente download each attachment as soon as it is available, or only when the user indicates that they would like to see the file.

- The **On demand** option tells Sente to download attachments only when the user asks to view them. This saves room on the device and may be the best option for the iPad. Of course, it is not possible to download attachments when the device is off-line, so the lack of an Internet connection may leave you unable to view some of your attachments.
- The **As soon as they are available** option tells Sente to download all attachments as soon as they are available on the sync server.
- The **Not applicable** is automatically selected if this copy of the library does not have access to attachments.

It is important to understand that even when you configure a copy of a library to download attachments on demand, once they are downloaded they remain in the

library as long as you need them. In other words, if you ask Sente to download a PDF, that PDF will be downloaded and saved in the library for quick access at any time. Thus, if you were about to get on a plane without Internet access, you would download any PDFs you were hoping to read during the flight and they would all be available to you even when you lost your Internet connection.

It is also possible to delete the local copy of any attachment without removing the file from the synchronized library. Thus, if you want to free up some space in any library, you can delete the local copies of some of your attachments. Then, should you later want these deleted attachments, you can simply download them just as you would if the library were set to Download on Demand.

There are things you should consider when selecting among the attachment handling options:

- Will this copy of the library reside on a computer with limited disk space? If so, you may want to select Download on Demand so that only those attachments that are currently of interest are actually downloaded, thus saving space on the computer.
- Will this copy of the library normally be left open in Sente and stay connected to the Internet? If so, then Sente will receive synchronization messages at any hour of the day or night, and therefore can process incoming attachments immediately, making them available essentially immediately. If the library will be open only occasionally, then this copy of the library will have to catch up each time it is opened. This means that it may fall quite far behind the other copies, especially if it has been configured to download all attachments as soon as they are available. This may make Sente slow to use, and it will have a hard time catching up because downloading attachments can be very time-consuming.
- Will this copy of the library be installed on an iPad? If so, it is very unlikely that Sente will be left running long enough to stay current on all attachments. In this case you probably want to download the attachments only as needed.

Sample Configurations

To help you understand how these various configuration options can be used, let's take a look at several common situations. Suppose you have installed Sente on your desktop computer in your office and you want to create copies of your library for your own use on the following devices:

- Your desktop computer at home
- Your laptop computer, which you tend to use mostly when traveling

- Your iPad, which you use regularly for reading new papers

In addition, you might want to create copies for:

- A research assistant who will be helping to gather new references
- A collaborator located at another institution
- Students in a class you are teaching

We will describe below how you might set up a synchronized copy for each of these scenarios. Obviously, the details of your situation will be different from the scenarios presented here, but these should help you understand how one selects the configuration options when creating synchronized copies of a library.

Configuring a Copy for Your Desktop Computer at Home

Suppose you have your main Sente library on your desktop computer in your office and you would like to place a synchronized copy of your entire library on your computer at home. This computer has plenty of disk space and a fast Internet connection, and it is normally always turned on. In addition, it is easy for you to transfer the synchronized copy to your home computer on a USB drive, so having a large synchronized copy is not a problem. In this case, we would recommend settings similar to the following:

- Create an **Unrestricted Copy**, because this will be for your own use and you should be able to do anything on the copy at home that you can do at the office.
- Pre-populate with **All references and attachments**, because you will be transferring the library on a USB drive and this will get the new copy up-and-running as quickly as possible.
- Attachments should be downloaded **As soon as they are available**, because your computer is always on (so it will stay current as long as Sente is running and the library is open) and disk space is not an issue.

Configuring a Copy for Your Laptop

In this scenario, let's assume you mainly use your laptop when commuting or traveling. This laptop has limited disk space and is not always connected to the Internet, and you don't want to have to wait for a long period of time for attachments to download. You will be able to transfer the synchronized copy to your laptop on a USB drive, but you may have limited space and so don't want to store all of the attachments on your laptop; you want to pick and choose which attachments to download, when you are ready to review them.

- Create an **Unrestricted Copy**, because this will be for your own use and you should be able to do anything on this copy that you can do in any other copy.
- Pre-populate with **All current references**, because you will be transferring the library on a USB drive and this will get the new copy up-and-running as quickly as possible, but you may have limited disk space and will want to choose which attachments to download.
- Attachments should be downloaded **On demand**, because your laptop is not always on and may have limited disk space. With this option, you will be able to choose which attachments you wish to download and will generally not have to wait for a long synchronize process when you first open the library in Sente.

Configuring a Copy for Your iPad

Say, for example, that you like to use your iPad for reading papers. It may or may not always be connected to the Internet, but Sente and the library are not always open and the iPad has limited storage space. The synchronized copy will be transferred via iTunes on your desktop computer. These are the options that you might want to use when setting up the synchronized library copy for your iPad:

- Create an **Unrestricted Copy**, because this will be for your own use and you should be able to do anything in this copy that you can do in any other copy.
- Pre-populate with **All current references**, because you will be transferring the library via iTunes on your desktop computer and this will get the new copy up-and-running as quickly as possible, but you may have limited disk space on the iPad and will want to choose which attachments to download.
- Attachments should be downloaded **On demand**, because your iPad has limited storage space and because downloading all PDFs as they become available would mean that Sente would rarely catch up with your other copies. With this option, you will be able to choose which attachments you wish to download and will generally not have to wait for a long synchronize process when you first open the library in Sente on your iPad.

Configuring a Copy for Use by a Research Assistant

You may wish to create a synchronized library copy for a research assistant. You might want the research assistant to be able to have full access to the references and attachments, but not be able to change the shared collections or the library settings. Let's assume that the research assistant has a desktop computer with plenty of disk space and a fast Internet connection, and it is normally always turned on. In addition, it is easy for you to transfer the synchronized copy to the research

assistant's computer over the local network, so having a large synchronized copy is not a problem. In this scenario, these settings would be recommended:

- Create a **Restricted Copy**, because you want to be able to control how the research assistant can modify the library.
- In the **References** option, select either **Add, modify, and delete** (if you want the research assistant to have full control over the references) or **Add and modify** (for add, view and modify control over the references, but without the ability to delete references).
- In the **Attachments** option, select either **Add** or **Add and delete**, depending on whether or not the research assistant should have full control over attachments.
- In the **Shared Collections** option, select **View only** to allow the research assistant the ability to view shared collections but not modify them.
- In the **Library Settings** options, select **View only** to allow viewing of the library settings, but not the ability to change the settings.
- Pre-populate with **All references and attachments**.
- Attachments should be downloaded **As soon as they are available**, because the research assistant will typically open the library each day and disk space is not an issue.

Configuring a Copy for Use by a Collaborator at Another Institution

In this example, you are sharing your library with a collaborator at another institution. You want the collaborator to have full control of the references, attachments, and shared collections, but not of the library settings. You may not know whether your collaborator has a desktop computer or laptop, or whether or not it is always connected to the Internet. Available disk space may or may not be an issue. Finally, you may need to transfer the library copy via email or by uploading it to a web server.

- Create a **Restricted Copy**, because you want to be able to control how your collaborator can modify the library.
- In the **References** option, select **Add, modify, and delete** to allow the collaborator full control over the references.
- In the **Attachments** option, select **Add and delete**, to allow the collaborator full control over attachments. (If attachments will not be shared with your collaborator, you may choose to select the **No access** option instead.)
- In the **Shared Collections** option, select **Modify** to allow your collaborator the ability to view and modify shared collections.

- In the **Library Settings** options, select **View only** to allow viewing of the library settings, but not the ability to change the settings.
- Pre-populate with **Nothing (smallest file, slowest initial sync)**, because you will be emailing the library copy as an attachment or uploading it to a web server and this option creates the smallest file size.
- Attachments should be downloaded **As soon as they are available** if you know that disk space is not an issue.

Configuring a Copy for Use by Students in a Class You are Teaching

In this scenario, you are teaching a class and have a set of papers for the students to read during the semester. You will be updating the library during the semester and want the students always to have the most up-to-date version of the library. You want the students to have view-only access to the library. You also have no knowledge of whether the students will be using desktop computers, laptops or iPads. Finally, you want to be able to either email the library to the students or upload it to a web server so that students can download it. These are the options we recommend you select for this scenario:

- Create a **Restricted Copy**, because you want the students to have view-only control over the library.
- In the **References** option, select **View only** so that the students will only be able to view the references and not change them.
- In the **Attachments** option, select **View only**, because you want the students to be able to view the attachments, but not change them.
- In the **Shared Collections** option, select **View only** so that students will not be able to modify the shared collections.
- In the **Library Settings** options, select **View only** to allow viewing of the library settings, but not the ability to change the settings.
- Pre-populate with **All current references**, because the library is relatively small except for the attachments, and this will reduce the time required for the initial sync.
- Attachments should be downloaded **On demand** because you know that many students will access the library on their iPads and this will limit the amount of time Sente needs to catch up on sync when it is launched.

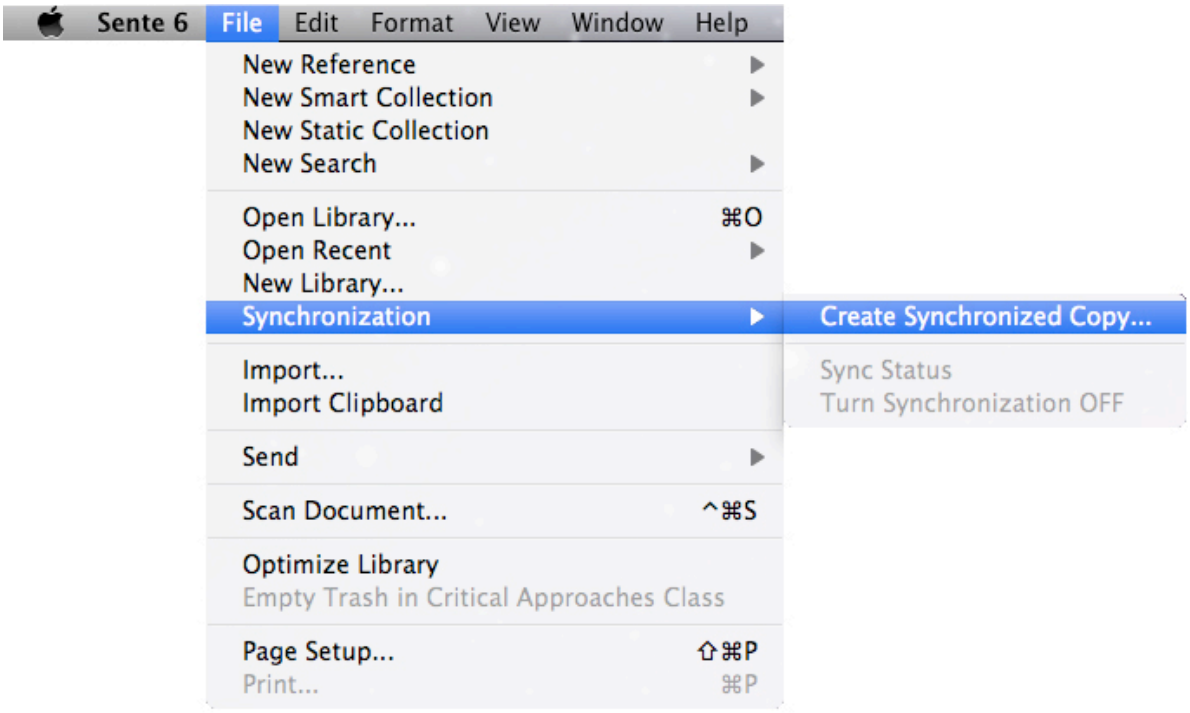
Setting up a Synchronized Library

This section provides step-by-step instructions for the operations required to set up synchronized copies of a library, including:

- Creating a synchronized copy of a library
- Installing a synchronized library on another computer
- Installing a synchronized library on an iPad
- Creating a synchronized copy of a library as a backup

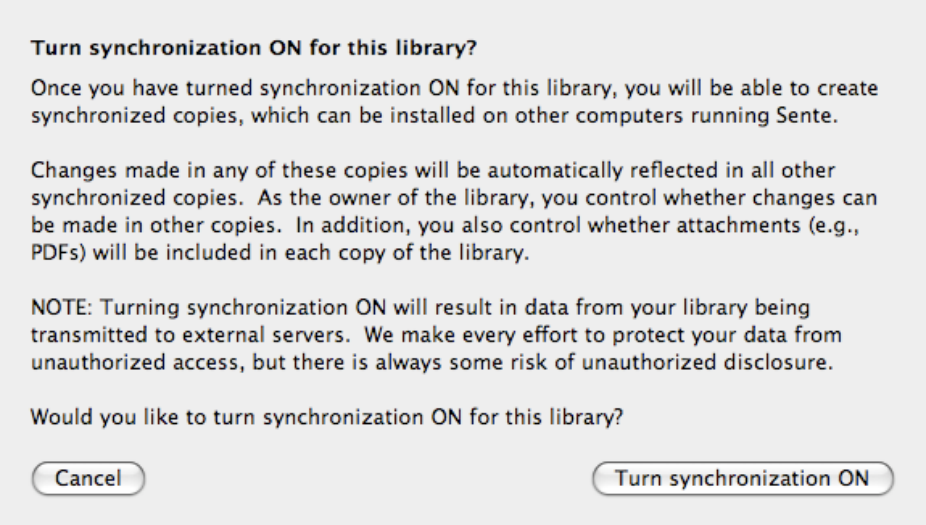
How to: Create a Synchronized Copy of a Library

1. *Open the library.*
2. *Select the File > Synchronization > Create Synchronized Copy command.*



Synchronization > Create Synchronized Copy

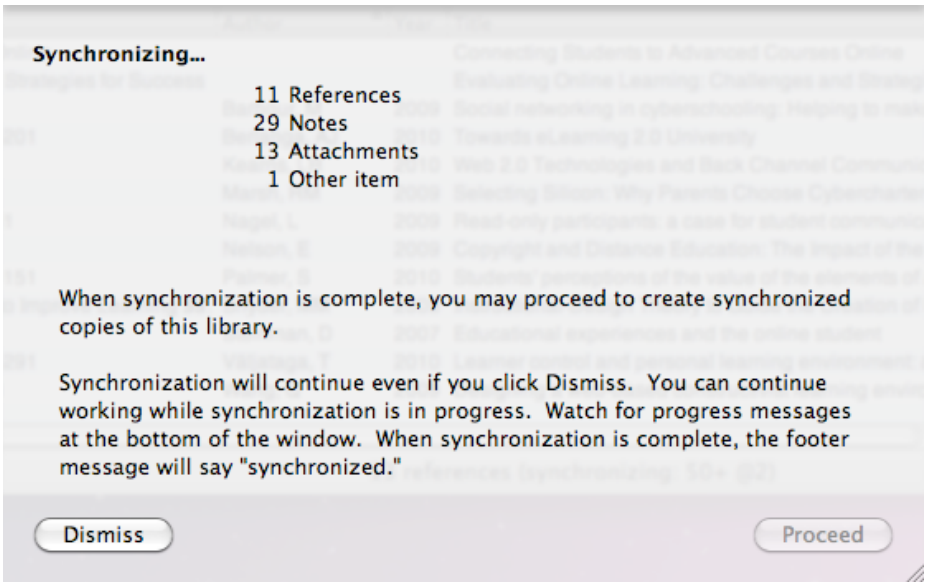
3. *If you have not previously turned sync on for this library, you will be asked whether you want to do this. You must turn sync on prior to creating a synchronized copy. Read the dialog box information and click on the appropriate button.*


Turn synchronization ON for this library?
Once you have turned synchronization ON for this library, you will be able to create synchronized copies, which can be installed on other computers running Sente.
Changes made in any of these copies will be automatically reflected in all other synchronized copies. As the owner of the library, you control whether changes can be made in other copies. In addition, you also control whether attachments (e.g., PDFs) will be included in each copy of the library.
NOTE: Turning synchronization ON will result in data from your library being transmitted to external servers. We make every effort to protect your data from unauthorized access, but there is always some risk of unauthorized disclosure.
Would you like to turn synchronization ON for this library?
Cancel
Turn synchronization ON

Turn Synchronization ON Dialog Box

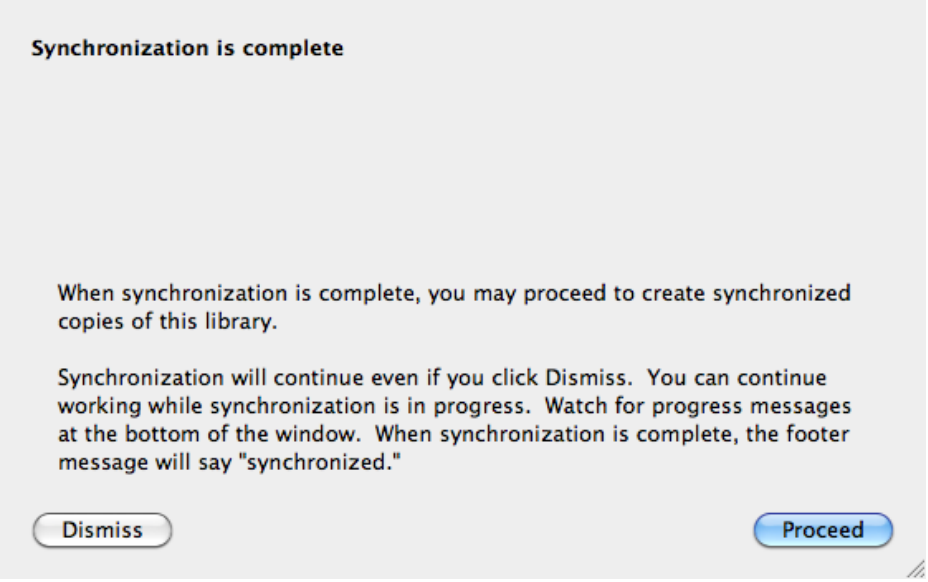
4. *Once you turn Synchronization on, the library will begin synchronizing with the Sente servers and a dialog box will show the progress.*

   The library synchronization may take some time. To continue working while the synchronization process continues, click the **Dismiss** button.


Synchronizing...
11 References
29 Notes
13 Attachments
1 Other item
When synchronization is complete, you may proceed to create synchronized copies of this library.
Synchronization will continue even if you click Dismiss. You can continue working while synchronization is in progress. Watch for progress messages at the bottom of the window. When synchronization is complete, the footer message will say "synchronized."
Dismiss
Proceed

Synchronization Progress Dialog Box

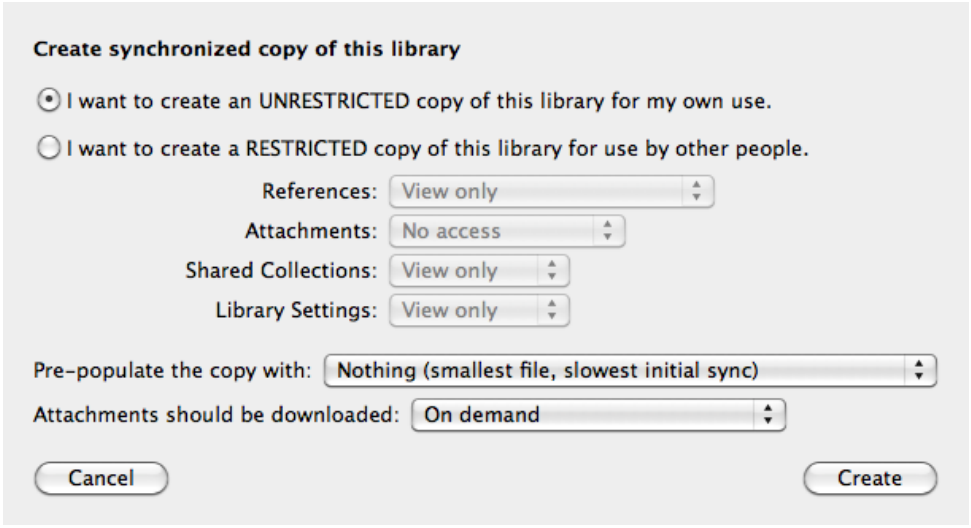
When the synchronization process has completed, a **Synchronization is complete** message will appear. Click the **Proceed** button to continue.


Synchronization is complete
When synchronization is complete, you may proceed to create synchronized copies of this library.
Synchronization will continue even if you click Dismiss. You can continue working while synchronization is in progress. Watch for progress messages at the bottom of the window. When synchronization is complete, the footer message will say "synchronized."
Dismiss
Proceed

Synchronization is Complete Dialog Box

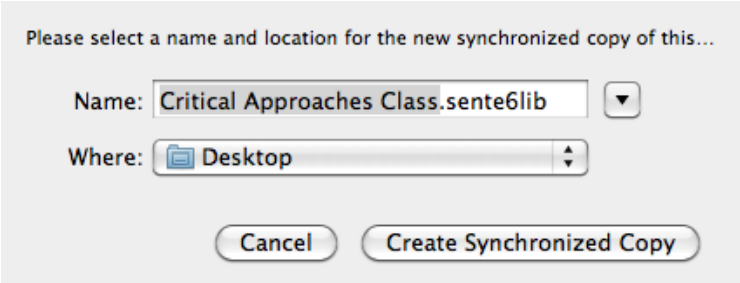
5. *Select the appropriate options.*

See the "Configuring Synchronized Copies" section.


Create synchronized copy of this library
I want to create an UNRESTRICTED copy of this library for my own use.
I want to create a RESTRICTED copy of this library for use by other people.
References: View only
Attachments: No access
Shared Collections: View only
Library Settings: View only
Pre-populate the copy with: Nothing (smallest file, slowest initial sync)
Attachments should be downloaded: On demand
Cancel
Create

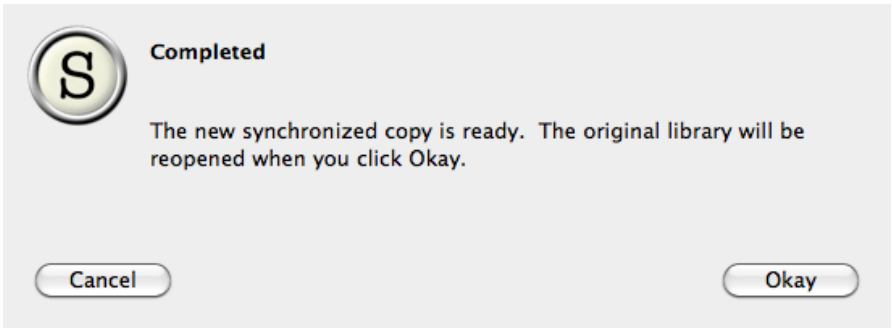
Create Synchronized Copy Options

6. *Click on the Create button when all of the options have been selected.*
7. *Type the library name, select the location where the synchronized library will be placed, and click the Create Synchronized Copy button.*


Please select a name and location for the new synchronized copy of this...
Name: Critical Approaches Class.sente6lib
Where: Desktop
Cancel
Create Synchronized Copy

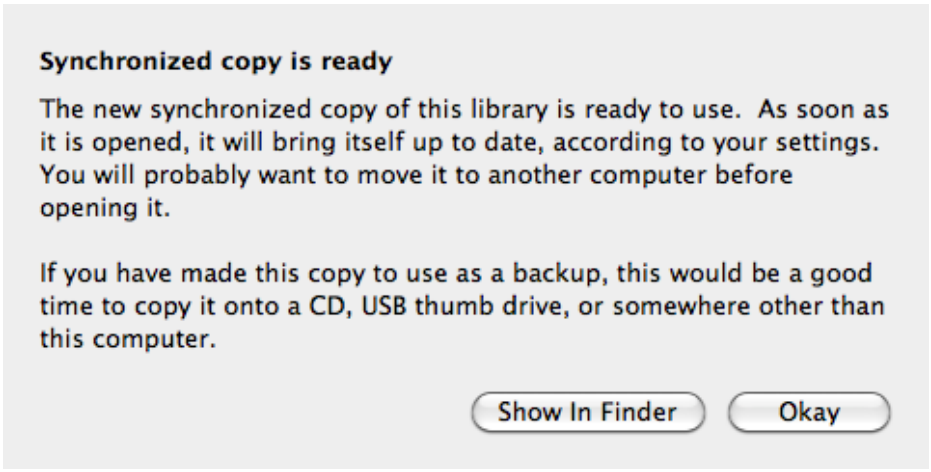
Save Dialog Box

8. *Click the Okay button when the process is completed.*



Synchronized Copy Completed Dialog Box

9. *Read the message about your synchronized copy, then click either the Show in Finder button or the Okay button.*


Synchronized copy is ready
The new synchronized copy of this library is ready to use. As soon as it is opened, it will bring itself up to date, according to your settings. You will probably want to move it to another computer before opening it.
If you have made this copy to use as a backup, this would be a good time to copy it onto a CD, USB thumb drive, or somewhere other than this computer.
Show In Finder
Okay

Synchronized Copy Dialog Box

The synchronized copy of the library is now ready to be transferred to and installed on another computer or iPad, uploaded to a web server, or distributed via email.

How To: Install a Synchronized Copy on Another Computer

1. *Transfer the synchronized copy file to the new computer.*

   Copy or move the file onto a CD, USB thumb drive, portable hard drive or other storage media, then transfer the file to the new computer. Alternatively, the library copy can be downloaded from an email or web server on the new computer.

2. *Open Sente on the new computer, then open the synchronized library file.*

   The library copy will begin to synchronize with the server. If the Pre-populate option was set to **All current references** or **All references and attachments (quickest initial sync)** and/or if the Attachment option was set to **As soon as they are available**, it may take a while to fully populate the new synchronized library.

How To: Install a Sente Library on an iPad

1. *If Sente is not already installed on the iPad, download the application and install it.*
2. *Connect the iPad to the computer.*
3. *If iTunes does not open automatically on the desktop or laptop computer, open it manually.*
4. *Click on the iPad name on the list under DEVICES in iTunes.*
5. *Click on the Apps tab in the iTunes window.*
6. *Scroll down to the "File Sharing" section and click on the Sente icon.*
7. *Add the synchronized copy of the Sente library.*

   Either drag and drop the synchronized copy of the Sente library onto the **Sente Documents** box or click on the **Add…** button and select the file using that method.

8. *Click the Sync button in iTunes.*
9. *Detach the iPad from the computer when the synchronization with iTunes has finished.*
10. *Open Sente on the iPad.*
11. *Tap on the Libraries button and choose the library from the list.*

    The synchronization process will begin and may take a while, depending on which pre-population and attachment options were selected.

How To: Create a Synchronized Copy as a Backup

1. *Follow the steps under Creating a Synchronized Copy of a Library to create the library copy.*
2. *Save the file in a location away from the computer, such as on a web server, USB device, or another computer.*
3. *If it becomes necessary, re-install the backup library copy, then open it in Sente and allow it to synchronize completely.*

Sync Conflicts

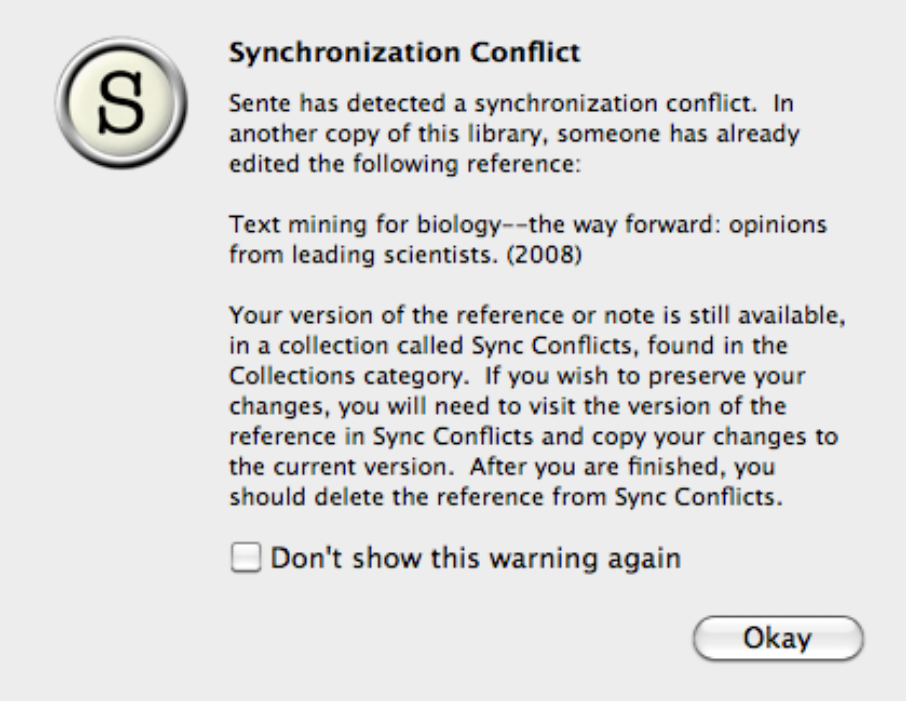
Normally, changes made on any copy of a synchronized library are immediately propagated to all other open copies as soon as they are made. This means that even if two people are editing the same library at the same time, they will be seeing each other's changes in close to real time. This ensures that each user will be seeing, and editing, the most current data at all times.

However, there are cases in which one user might make a change to an outdated version of a reference. When this happens, the change will be rejected by the sync servers as a "sync conflict," which must be then handled manually by the user.

Theoretically, but not commonly, two people could be editing the very same reference at the same time, each making a change to some attribute on that reference. If their edits exactly overlap in time, then the first that is submitted to the sync servers will "win" and the second to be submitted will be rejected as a conflict.

A far more common scenario is that one user edits many references while off-line (say, on a flight with no Internet connection). While they are on the flight, another user might make changes to some of the same references. When the first user finally connects to the Internet and begins the Sente sync process, changes they made to references that were also edited by the second user will be flagged as conflicts.

When a sync conflict is detected, Sente will present a warning something like the following.


Synchronization Conflict
Sente has detected a synchronization conflict. In another copy of this library, someone has already edited the following reference:
Text mining for biology--the way forward: opinions from leading scientists. (2008)
Your version of the reference or note is still available, in a collection called Sync Conflicts, found in the Collections category. If you wish to preserve your changes, you will need to visit the version of the reference in Sync Conflicts and copy your changes to the current version. After you are finished, you should delete the reference from Sync Conflicts.
Don't show this warning again
Okay

Sync Conflict Warning Message

When a sync conflict is encountered, the version of the reference that "won" will appear in all copies of the library. The version of the reference that "lost" will be placed in the Sync Conflicts collection in COLLECTIONS in the copy of the library where those (rejected) changes were made.

By retaining both copies of the reference, Sente makes it easier to re-do any lost edits, as appropriate.

Once you decide what you want to do with each reference in the sync conflicts collection, they can simply be deleted.

Preventing Sync Conflicts

Under most circumstances, sync conflicts are rare, but there are some ways of working that make them more common.

Sync conflicts will be rare if everyone working on a library is connected to the Internet while editing data. In this case, sync conflicts can only occur if the very same reference is edited by two people at exactly the same time.

On the other hand, one of the strengths of Sente's sync mechanism is that it supports editing while off-line. As long as you are a bit careful about how this is done, you will rarely experience sync conflicts.

For example, if you are the only person editing a synchronized library, and you make sure that you connect your computer to the Internet after making changes, but before working on a different copy, you will not have sync conflicts.

Or, if there are multiple people editing a library, if you limit the scope of edits that are made while off-line (e.g., wait until you are on-line to make edits like assigning tags or statuses to large numbers of references), then you will not often generate a sync conflict.

Resolving Sync Conflicts

When you are notified that a sync conflict has been detected, you need to decide how to resolve the conflict.

First, it is important to note that the conflict exists only on the computer on which the conflict was reported. All copies of the library have the same data for the references in question, and this version is the one that "beat" the changes made on the computer on which the conflict was reported. In that library, the changes that "lost" can be found in the Sync Conflicts collection in COLLECTIONS.

If you do nothing, the changes that "lost" will not be reflected in the library proper. For these changes to appear in the library, you must make the edits again on the newer version of the references.

For example, suppose you assign a particular QuickTag to a hundred references while off-line. While you are off-line, someone else updates several of these references in some way. Then, when you take your copy of the library back on-line, those several references will be reported to you as sync conflicts. The changes to the other references will go through without a problem. In this case, you would locate the references in the Sync Conflicts collection, select the same references in the main library, and then re-assign the status or QuickTag.

Troubleshooting Synchronized Libraries

Synchronized libraries normally "just work." Sometimes, however, things may not seem to be working as expected. This section will describe how you can determine whether or not sync is actually working and, if not, what can be done to address the situation.